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# COMPARISON OF OUTCOMES IN EMERGENCY DEPARTMENT PATIENTS TREATED BY NURSE PRACTITIONERS OR PHYSICIANS

by

MICKEY D. ALDRIDGE

A Thesis
Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Nursing
in the Division of Nursing
Mississippi University for Women

COLUMBUS, MISSISSIPPI

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Comparison of Outcomes in Emergency Department Patients Treated by Nurse Practitioners or Physicians

by

Mickey D. Aldridge

Melinda E Reed
Instructor of Nursing
Director of Thesis

Mary Patricia Curtis
Professor of Nursing
Member of Committee

Lynn Chilton
Assistant Professor of Nursing
Member of Committee

Director of the Graduate School

## Abstract

The increasing number of patients who seek health care in the emergency department has placed a great strain on the resources of facilities to meet those primary health care needs. Utilization of nurse practitioners as health care providers in the emergency department has been suggested to meet the continuing influx of patients. The purpose of this study was to examine the outcomes for patient satisfaction, patient knowledge, and problem resolution. Three hypotheses were generated: (a) There is no difference in the outcome of satisfaction in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner, (b) There is no difference in the outcome of knowledge in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner, and (c) There is no difference in the outcome of problem resolution in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner. King's Theory of Goal Attainment provided the theoretical framework. The Aldridge Questionnaire, adapted from a tool developed by Powers, Jalowiec, and Reichelt (1981), was used to gather data

from the sample ($N$ = 151). No significant difference in patient satisfaction emerged; therefore, Hypothesis 1 was accepted. However, there were significant differences in patient knowledge and problem resolution, thus Hypotheses 2 and 3 were rejected. Significantly more instructions were recalled by patients treated by nurse practitioners. Also, there was a significant difference in problem resolution in patients when measured by unscheduled visits seeking additional health care. Also, within a 4-week period following discharge from the emergency department, no patients treated by nurse practitioners made additional unscheduled visits while 8 patients treated by physicians made unscheduled visits seeking additional health care. These findings support the placement of nurse practitioners in the emergency department to help alleviate the pressures brought on by increasing numbers of patients who utilize the local emergency department for primary care. A recommendation is to implement a longitudinal study which focuses on the evolution of the nurse practitioner in the emergency department.

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# Chapter I

## The Research Problem

In today's uncertain climate of health care delivery, many organizations have sought to determine the most cost effective way to deliver health care. One factor which has complicated the task of health care delivery has been the trend to seek health care not from the traditional physician clinic, but from the local emergency room. In 1993, the General Accounting Office (GAO) of the United States Government, responding to reports and studies alleging overcrowded conditions and fragmentation of care to patients, completed a study which was presented to the United States Senate. The report stated there were approximately 100 million visits to local hospital emergency departments with 43 million of those for nonurgent conditions (GAO, 1993). Further, the American Hospital Association, the major professional organization representing hospitals in the United States, commissioned a survey by Inforum which reported 38% of American households visited emergency departments for minor illness (American Hospital Publishing, 1991).

Emergency departments have traditionally been equipped and staffed with trained staff to handle emergent

conditions, but with this recent trend of patients presenting with conditions which range from primary care to more complex medical needs, staff and facilities are becoming overwhelmed. The reasons patients have sought health care at emergency departments are varied. Hayward, Bernard, Freeman, and Corey (1991) found many people were lacking a regular source of primary care for the following reasons: financial problems, loss of health care insurance, local resource inaccessibility, no desire for a regular source of ambulatory care, and the transitory loss of their regular source of ambulatory care. In many areas access to both primary and urgent care has been limited to the emergency department. Limitations may have been due to a lack of physician services to an area or services not being provided as a consequence of a lack of financial resources by consumers. In addition, the problem has been compounded by patients who wait far too long before seeking care, then present to the emergency department with complex medical needs (Middleton & Whitney, 1993).

Some patients present to emergency rooms with conditions that are known to the patient not to be urgent. Grumbach, Keane, and Bindman (1993) reported that 45% of respondents cited access barriers to primary care as the reason for their seeking treatment at an emergency department. Only 13% had conditions which warranted use of emergency department facilities. Grumbach et al. (1993)

found 38% of patients were agreeable to seeking treatment at a primary care clinic within 3 days instead of using the emergency department. This finding suggested that many who use emergency departments are aware their problems are nonurgent but choose to use the emergency room as a matter of convenience or because they experience barriers to access care.

The over-utilization of the emergency department has been worsened by the passage of the Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA), which mandated emergency departments to provide assessment and stabilizing care to any individual who presented to that department with any emergent condition or in active labor (Frew, Roush, & LaGreca, 1988). This act was intended to stop the "dumping" of patients who had little means to pay for services on county and charitable hospitals. However, the COBRA legislation has served to open the way for treatment by anyone at a local emergency department regardless of condition. The American judicial system, since the enactment of COBRA, has provided for a broad interpretation of "emergent condition" for the patient and a very narrow one for hospital emergency departments. Care must be presented to the patient without regard to complaint or ability of the patient to pay for services rendered. Consequently, over-utilization of services in emergency departments has not only been overwhelming to

the nursing staff and physicians of these departments but has rapidly pushed the current health care system out of its resources to handle the flow of patients (Friedman, 1992). Clearly, the emergency department has become the open doorway, not only to the local hospital, but to medical care for many American families.

While the problems of over-utilization of emergency departments are vast, they are not shared equally among all emergency departments. Smaller hospitals (less than 100 beds) have reported a 30% increase in emergency department use when compared to larger hospitals with more than 100 beds (GAO, 1993). This suggests that utilization is increasing in hospitals with rather limited resources available to meet the increasing needs at a faster pace than in hospitals with greater resources available to meet the increasing health care needs.

Rural areas are also impacted. For example, in the state of Mississippi, fewer general practice and family medicine physicians are applying for licensure (South, 1993). Several reasons for this have been postulated, but physicians surveyed identify one reason: the physicians' preferences are to move to more metropolitan areas in order to have better (shorter) office hours with less call time. The trend of physicians to move to more urban areas has led to extreme shortages of physician primary care givers in rural areas and underscores the results of

previously cited works which name barriers of access of care as one reason to present to emergency for nonurgent care (Grumbach et al., 1993; Hayward et al., 1991; Middleton & Whitney, 1993).

The increase in patient populations in the emergency department has led to unfavorable outcomes for patients as well as facilities. Patient complaints of overcrowding, excessive time spent waiting in emergency department waiting rooms, and apparent lack of caring by treating physicians have been cited in the literature as reasons for patients leaving the emergency room prior to treatment (American Health Consultants, 1994). All of these reasons stem from the basic fact that most emergency departments are not equipped nor staffed to manage such an influx of patients with nonurgent needs.

Another unfavorable outcome of over-utilization of emergency departments has been patients leaving the emergency department without an increase in knowledge about their illness or self-care whether they have been treated or not. The Clinician's Handbook of Preventive Services: Put Prevention into Practice, published by the American Nurses Association (1994), cited lack of patient knowledge as one barrier to implementing preventive care. Reasons for the lack of patient knowledge have been varied but listed among them are lack of clinician time and lack of clinician interest. The overcrowded conditions

exacerbate the decrease in time clinicians can spend with their patients. Health care providers who are overwhelmed with the number of patients presenting to the emergency department may lose interest in the treatment of the individual patient in an effort to treat as many patients as possible. This results in patients leaving the emergency department without understanding instructions given to them and decreasing the chance of their treatment correcting their health care problem. Egan (1994) states that "Helpers are effective to the degree that their clients, through client-helper interactions, are in better positions to manage their problem situations and/or develop the unused resources and opportunities of their lives more effectively" (p. 5). Clearly, many patients leaving the emergency department do so without being helped to manage their problem situations because of a lack of time or a lack of interest by the provider.

Another unfavorable outcome for patients has been the non-resolution of their problems. The most significant example is the leaving of the emergency department without being treated. When this is done, the health care problem becomes worse and may demand more complex health care modalities including hospitalization to correct the problem.

A lack of patient compliance to the medical regime has also played a part in nonresolution of medical

problems. Some patients have not participated in a regime of medical care to resolve their health care problems where they did not perceive they mattered as an individual to the health care provider. Patients may have been noncompliant because they saw the goals of the helper as being different from the patient's personal goals or because the patients felt they were not being respected as a person but were seen as a number (Bandura, 1990; Egan, 1994).

When evaluating outcomes of patients utilizing the emergency department, an examination of who is treating these patients is of vital importance. In the emergency department setting, physicians traditionally have sought to treat patients with technological solutions and often become overwhelmed by the large numbers of patients who are seeking primary care. Even though trained, staffed, and equipped to handle emergency conditions, the services offered by emergency departments have been diversified by federal legislation defining emergency medicine as a primary care specialty (Dowling & Dudley, 1995). The diversification of services has led to an increase in the number of patients presenting to the emergency department with primary health care needs leading to a tremendous strain on resources, both physical and financial, for institutions supporting emergency departments.

Another aspect of this diversification, when examined in the light of the medical model, is the result of episodic care for patients. Patients present to the emergency department with health care complaints, and the physician narrows down those complaints and treats the most significant. Many times the underlying cause of the complaint or associated causes of the complaint go untreated and cause the health care problem to return. Thus, there is no problem resolution and increased patient dissatisfaction with the health care system.

Nurse practitioners are trained in a wellness model as well as the illness model. They seek to enhance behaviors in patients which maintain health and thus decrease illness while treating any underlying illness that is present. Nurse practitioners provide health care which is comprehensive, coordinated, and continuous. This is done through teaching, counseling, and prescribing a variety of modalities as described in Nursing's Social Policy Statement (American Nurses Association, 1995). A substantial part of this model is done through education of the patient and with patient collaboration. With increased patient involvement, nurse practitioners in general, and in the emergency room in particular, have enjoyed less patient dissatisfaction and improved patient outcomes (Covington, Erwin, & Sellers, 1992; Powers, Jalowiec, & Reichelt, 1984; Spisso, O'Callaghan, McKennan,

& Holcroft, 1990). Fragmentation of care may result for patients who attempt to have primary care needs met by utilizing the emergency department.

Creation of a collaborative approach to primary care in the emergency department utilizing both nurse practitioners and physicians may be one way to prevent fragmentation of health care for patients (Middleton & Whitney, 1993). Even if philosophical differences exist between physicians and nurse practitioners, the attainment of mutual goals of health care can be met by utilizing nurse practitioners in the emergency department to treat patients seeking relief of primary care problems (Middleton & Whitney, 1993).

Attempts have been made to improve patient transition through the emergency department. Such an experiment was conducted by Vanderbilt University Medical Center (VUMC) (Covington et al., 1992). A fast track system staffed by nurse practitioners was implemented as a mechanism to provide care to nonurgent patients. In one year (1989-1990) the census at VUMC increased 26% with a reduction in the numbers of patients leaving the department without having been seen. In 1989, 45 patients per month left the VUMC emergency department without treatment. This fell to 28 patients per month leaving without treatment in 1990. Also noted was a substantial revenue gain realized by VUMC because 88% of patients treated by the nurse practitioners

were covered by insurance, Worker's Compensation, Medicare, or Medicaid (Covington et al., 1992).

The use of nurse practitioners in the trauma service also has been implemented at the University of California, Davis, Medical Center (Spisso et al., 1990). After nurse practitioners were established, there was a noted decrease in average length of stay in days (8.10 to 7.05) as well as decreased waiting times (41 minutes down to 19 minutes). Complaints also decreased from 16 to 7 per year.

The decade of the 1990s has been named the time of promise for professional nursing (Mezey & McGivern, 1993). More emphasis is placed on the wellness model instead of the illness model under which our health care system has operated for years. Now there is a call for health promotion and disease prevention. Statements by Healthy People 2000 and Nursing's Agenda for Health Care Reform call for increased primary care as well as increased and equal access to that care for all citizens of the United States. Emergency departments are the only avenue for some people to gain medical attention they need, whether it be primary care or emergent care. Emergency department nurse practitioners can play a major role in attaining the goal of a healthier people by the year 2000 (Rogers, 1995).

## Theoretical Framework

This research was conducted within the framework of King's (1981) Goal Attainment Theory. King's theory

consists of three interacting systems: personal, interpersonal, and social. The personal system consists solely of the individual and includes perception, self, growth and development, body image, space, and time. The second system, interpersonal, occurs when humans socialize and includes interaction, communication, transaction, role, stress, and coping. The third system is the social system and occurs when interpersonal systems come together to form larger systems. This includes families, religious groups, schools, work places, and peer groups (Wesley, 1992).

According to King (1981), humans have been determined to be open systems in constant interaction with their environments. Patients and health care workers come together to maintain a state of health for the patient. The patient presents to the health care worker and communicates a need. The health care worker and the patient establish a mutual goal and together they make a plan to satisfy the patient's need, then work together to meet the goal. These actions lead to transactions, communication of information, and eventually goal attainment or a redefinition of the goal. Because each individual, patient, and health care provider bring different values and ideas to the interaction, the individual perception of the goal is the representation of reality to each (Rogers, 1995). More simply stated, the

patient and the health care provider both have an idea of what the goal should be; however, both are looking at the goal from their personal perspective which might be different from the other person. The interactions and the transactions between the patient and the health care provider define this reality and lead to a mutually accepted goal.

This research study has represented emergency department patients who present with primary health care problems as having needs the patients wished to be met. Further, that the patient and the health care workers determine goals to meet those health care needs and through interaction and transaction design a plan of care to meet those goals. For successful goal achievement and resolution of the patient's health care needs, the patient must buy into that plan of care. If the patient does not agree with the plan of care or if the goals determined by the health care provider do not match with the goals of the patient, the patient will leave the health care setting unsatisfied and without problem resolution.

## Assumptions

The assumptions of this study were the following:

1. Patients present to emergency departments with primary health care needs.

2. Patients and health care workers define the need for health care and how to resolve the needs of the patient.

3. Clear communication between the patient and the health care provider must take place for appropriate goal setting to occur.

4. Patient knowledge, satisfaction, and problem resolution can be measured.

## Purpose of the Study

The purpose of this study was to ascertain if differences exist in patient satisfaction, patient knowledge, and patient problem resolution in emergency department patients treated by physicians or by nurse practitioners.

## Statement of the Problem

Because of the overcrowding of emergency departments by patients seeking relief of primary care problems, the increased waiting times, and the problems of access to primary care physicians in some areas, placement of the nurse practitioner in the emergency department has been proposed as a solution. This research examines the issue of whether there is a difference in the outcome of care in patients with respect to patient knowledge, patient satisfaction, or problem resolution when nonurgent

patients are treated in the emergency department by nurse practitioners as opposed to physicians.

## Hypotheses

1. There is no difference in the outcome of satisfaction in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

2. There is no difference in the outcome of knowledge in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

3. There is no difference in the outcome of problem resolution in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

## Definition of Terms

For the purposes of this study, the following terms have been defined:

1. Nonurgent patients: Theoretical: Patients who have been triaged and determined to have health care problems which are not an emergency. Operational: Patients who present at selected emergency department settings with health care problems and who have been triaged as nonurgent.

Emergency department: Theoretical: A hospital unit set up and maintained by staff who are trained and qualified to handle emergencies 24 hours a day. Operational: The outpatient setting of selected hospitals where patients present without appointment for treatment of their primary health care needs.

3. Physicians: Theoretical: A medical doctor who has passed medical board requirements and is licensed to practice in one of the hospital emergency departments selected for this study. Operational: A medical doctor who treats patients in selected emergency departments.

4. Nurse practitioner: Theoretical: A graduate registered nurse with advanced preparation, either in a master's degree or certificate program, who has been prepared to provide advanced nursing care and to practice independently or collaboratively in primary care settings and in the emergency departments selected for this study. Operational: An advanced practice nurse employed at selected hospitals who treats patients presenting to the emergency department with primary health care needs.

5. Outcomes of knowledge: Theoretical: Information gained by education or experience. Operational: The amount of health care recommendations recalled by the patient or significant other suggested by the health care provider to relieve the problem as determined by a tool developed by

Powers et al. (1984); the number of discharge instructions the patient or significant other could recall.

6. Satisfaction: Theoretical: The fulfillment of needs or requirements. Operational: Responses given by patient or significant other to questions about the quality of care given and the staff delivering that care as determined by a tool developed by Powers et al. (1984). The way the patient or significant other felt about the way they were treated and the treatment rendered.

7. Problem resolution: Theoretical: The return to a normal state of being. Operational: Whether the patients had to make an unscheduled visit to a physician or other health care provider for the same problem which prompted their emergency department visit. If a positive response was given, the patients were asked the reason for the unscheduled visit.

## Significance to Nursing

The American Nurses Association (1991) argues for an expanded viewpoint in health care provision calling for the use of a wider range of qualified health care providers, particularly in understaffed specialties such as primary care. Previously researchers have demonstrated a greater percentage of the population uses the local emergency department to access primary care. Information gained from the current research study could be utilized

in expanding the practice of nurse practitioners into this nontraditional but important health care setting.

Data gleaned from this current research are specific to the emergency department setting and could aid in development of curricula specific to this setting for nurse practitioner students. The addition of this education may facilitate the movement of nurse practitioners into another area of service and help provide more access to primary care for patients with limited access to that care.

Research has been needed to support and substantiate that nurse practitioners provide cost effective and competent care in the emergency department setting. Also needed has been research which demonstrated that nurse practitioners can and do meet the needs of providing access to primary care for patients who are unable to access that care in other ways. Research also would show that nurse practitioner care yields positive patient outcomes in the emergency department setting.

Nurse practitioners can use the data obtained from this research to sway or persuade hospital administrators to develop and employ nurse practitioners in a fast track unit designed to treat primary health care problems which present to the emergency department. Further, results from this study may show that care provided by nurse

practitioners is equivalent to the care rendered by physicians for primary health care needs.

The current research may help demonstrate the types of health care goals patients who present to the emergency department set for themselves and their health care providers. This type of research, utilizing King's (1981) Theory of Goal Attainment as a framework, would validate the use of King's theory for future research in this area.

## Summary

Patients present to emergency departments seeking primary care for a number of reasons, but many leave unsatisfied, with not enough knowledge of how to take care of their problem, and sometimes with their problem not being resolved. This study sought to determine if differences exist in these three study variables in patients treated in the emergency department by physicians or nurse practitioners.

Chapter II will review the literature which was important to this study question and report results of previous research. An analysis of the research findings will be given.

Chapter III will describe the method utilized in the present research study. The design of the study along with study variables will be described and hypotheses will be restated. Limitations to the present study will be presented.

Chapter IV will present the findings of this study. The purpose and design of the study will be restated. The results of data analysis will be presented along with any additional findings.

Chapter V will seek to describe the outcomes of this research and provide an interpretation of the research study along with a discussion of findings. Conclusions, based on those findings, will be presented in this chapter.

## Chapter II

## Review of Literature

The researcher reviewed studies comparing patients treated in the emergency department by physicians or by nurse practitioners. This review of literature focused on patient outcomes which could be measured between the physician group and the nurse practitioner group. Only one study was found which compared emergency department patients treated by physicians with emergency department patients treated by nurse practitioners.

Using an experimental field design and a sample size of 62, Powers, Jalowiec, and Reichelt (1984) compared client knowledge, satisfaction, and compliance in patients treated by nurse practitioners and physicians in a midwestern emergency department. In the study, an experimental group of nonurgent patients ($n$ = 31) in the emergency department was cared for by a nurse practitioner, and a control group of nonurgent patients ($n$ = 31) was cared for by physicians.

A structured interview by a research assistant was conducted in three phases: at the time of discharge from the emergency department, 2 weeks after discharge from the emergency department, and 3 months following the emergency

department visit. Telephone, mail, and chart review techniques were also utilized to gather data. During the first phase, patients were interviewed by the research assistant to determine satisfaction and comprehension of the health care actions prescribed by the health care provider during that specific visit to the emergency department. Two weeks later, the patients were contacted by telephone and interviewed to determine patient compliance with actions prescribed at the time of the initial emergency department visit. Three months after the initial emergency department visit, patients were contacted by telephone or by mail and interviewed regarding long-term compliance with prescribed actions.

Powers et al. (1984) found no significant differences between the experimental group (treated by a nurse practitioner) and the control group (treated by a physician) in terms of client knowledge, satisfaction, and compliance. There was greater comprehension of the medication regimen in the control group than in the experimental group ($p < .05$), while the experimental group showed greater comprehension of therapeutic and diagnostic procedures than the control group ($p < .05$). A research questionnaire was developed by Powers et al. (1984) which compared the number of health care activities prescribed by the health care provider with the number recalled by the patient immediately after discharge from the emergency

department, 2 weeks after discharge and 3 months after discharge. In order to compare this recall, a score was derived for each subject by dividing the number of activities recalled by the number ordered by the health care provider at the time of the emergency department visit. The experimental group recalled 76% of prescribed health care activities with an accuracy of rationale being 94%. The control group recalled 81% of activities with a 92% accuracy score. No significant difference between the two groups was found, $t(60) = .55$.

Satisfaction was analyzed using an independent $t$ test of scores obtained from a 5-point Likert scale on the questionnaire with the experimental group achieving 4.61 ($SD = .92$) and the control group 4.32 ($SD = .83$). The independent $t$ test showed no significant difference between satisfaction ratings, $t(60) = 1.30$. Powers et al. (1984) did note a higher percentage of patients who were completely satisfied with their health care provider in the experimental group (77.4%) compared to the control group (48.4%).

Using self-reported data obtained 3 months after the emergency department visit by mail or telephone, Powers et al. (1984) compared actions prescribed at the initial emergency department visit. A score was derived by setting full compliance at 3 points and noncompliance at 1 point. The score was then computed by dividing the sum of the

ratings by the number of activities prescribed. Powers et al. found no significant difference, $t(33) = 1.23$, in compliance to health care related activities prescribed by either health care provider. The experimental group achieved 2.44 (*SD* = .76) and the control group achieved 2.73 (*SD* = .62). Objective data were also obtained by checking appointment keeping behavior of the two groups. The experimental group kept 34 of 57 appointments (59.6%) while the control group kept 51 of 85 (60.0%). The mean score for the experimental group was .44 (*SD* = .42) and .49 (*SD* = .41) for the control group. There was no significant difference in mean appointment keeping scores for the two groups, $t(44) = .34$.

Powers et al. (1984) concluded there were no significant differences in the treatment of patients presenting to the emergency department by nurse practitioners or physicians in terms of patient satisfaction, patient compliance with prescribed health care actions, or patient knowledge. Based on this conclusion, Powers et al. (1984) stated that the extension of responsibility of the advanced practice nurse to the management of nonurgent emergency department health problems would be an economically feasible option.

Hill, Bird, Harmer, Wright, and Lawton (1994) evaluated the effectiveness and acceptability of a nurse practitioner in a rheumatology outpatient clinic. The

purpose of the study was to determine if a difference existed in the outcome of treatment in rheumatology patients treated by nurse practitioners as compared to consulting rheumatologists. Using a sample size of 70, Hill et al. randomly assigned patients to either a rheumatology nurse practitioner or a consultant rheumatologist (physician). Utilizing a tool developed by Hill et al. (1994), patient knowledge and satisfaction were measured by a self-reported questionnaire. It was found that there was a higher level of patient knowledge ($p < .0001$) and significantly more patient satisfaction ($p < .0001$) in patients treated by nurse practitioners when compared to patients treated by physicians. The researchers concluded that nurse practitioners could offer equivalent, effective rheumatology management to patients when compared with physician treatment. The study by Hill et al. supports validation of the use of patient knowledge and satisfaction as useful outcome measurement standards in comparing patient treatment in the emergency department setting among health care providers.

The use of patient satisfaction and resolution of health care problems has been validated in a meta-analysis study by Brown and Grimes (1995). The purpose of their research was to evaluate patient outcome studies of nurse practitioners and nurse midwives as compared to physicians in primary care settings. Sample size was 53 with 38 nurse

practitioner studies and 15 nurse midwife studies. In studies where randomization of provider was employed, greater patient compliance with treatment recommendations was shown with the nurse practitioner groups as compared with the physician groups. In studies which controlled for patient risk in means other than randomization, patient satisfaction and resolution of health care problems were greater for patients treated by nurse practitioners as compared to patients treated by physicians. The Brown and Grimes (1995) study helps substantiate the use of patient satisfaction and problem resolution as valid measurement outcomes in comparison to treatment rendered by nurse practitioners and physicians.

Research into the acceptance of nurse practitioners in the emergency department was undertaken by South (1993) and Rogers (1995). South used a descriptive, exploratory research design to determine whether physicians would accept nurse practitioners as primary care providers in emergency departments. Because of an apparent shortage of emergency room primary care providers in rural area hospitals, South (1993) sought to determine acceptance of nurse practitioners by emergency department physicians. Two research questions explored whether physicians would be accepting of the role of the nurse practitioner in the emergency room and considering demographic variables, would there be a difference in physicians who were

accepting and those who were not accepting of the role of the nurse practitioner in the emergency room.

South (1993) utilized a revised version of the Davis Acceptance Survey (Davis, 1992) which was mailed to every emergency department physician affiliated with the 10 hospitals selected for the study. The physicians were to determine as acceptable or unacceptable 27 tasks which had been deemed appropriate for the nurse practitioner in the emergency department. The sample size ($n$ = 68) was determined by the number of surveys completed and returned.

South (1993) analyzed the results of the survey using descriptive statistics. The number of tasks marked acceptable by the physicians on each questionnaire was divided by the total number of tasks listed on the survey to determine a score for the participant. Percentages were calculated on each task included in the questionnaire to determine the level of acceptance. South (1993) established that physicians were accepting of the role of the nurse practitioner in the emergency department setting if 60% of the tasks were marked as appropriate for nurse practitioners.

Noting an acceptance rate of 69%, South (1993) concluded that physicians were accepting of the role of the emergency department nurse practitioner. Physician acceptance supports the placement of nurse practitioners

in the emergency department for the treatment of primary care problems.

South (1993) also questioned whether demographic variables would influence the acceptance of nurse practitioners in the emergency department setting. Several variables were not considered because of insufficient information. However, significant differences were found between physicians who had previously worked with nurse practitioners when compared with physicians who had not, $t = 2.49$, $p < .05$, regarding the acceptance of the nurse practitioner role.

Also looking at the acceptance of nurse practitioners in the emergency department, Rogers (1995) explored the perceptions of registered nurses working in the emergency department toward nurse practitioners working in the emergency department. Using King's (1981) Theory of Goal Attainment, Rogers (1995) stated that accurate perception of the nurse practitioner role in the emergency department by registered nurses working in the same department would be crucial to the acceptance of that role. Rogers (1995) utilized a revised version of the Davis (1992) Acceptance Survey which outlines 27 tasks deemed appropriate for the nurse practitioner in the emergency department setting. Registered nurses working in selected hospital emergency departments were asked to respond if they considered the

tasks as acceptable or unacceptable for the nurse practitioner in the emergency department setting.

Using a sample size of 36, Rogers (1995) found 86% of respondents scored 65% or greater, leading to the conclusion that there was a positive perception among registered nurses working within the emergency department. Additionally, Rogers (1995) concluded that acceptance of the role was greater among nurses who had previously worked with nurse practitioners and acceptance was less among older nurses who had not worked previously with nurse practitioners. Rogers (1995) summarized that this later finding might be a territorial issue.

Rogers (1995) recommended a replication of this research with a larger sample size and including more nursing specialty areas. Also recommended was further investigation into factors which facilitated or impeded the practice of nurse practitioners in the emergency department setting. Another recommendation by Rogers (1995), which directly impacts the current research, was the examination of the contribution of the emergency department nurse practitioner to health care as a primary provider.

The acceptance of the nurse practitioner in the emergency department setting by physicians and nursing staff is of extreme importance. Without the support of the entire health care team, treatment of primary health care

problems in the emergency department by nurse practitioners is doomed to failure. The next logical step would be the investigation of the acceptance of the nurse practitioner in the emergency department by the patients.

## Summary

Finding only one published study researching differences in treatment of emergency department patients by physicians or nurse practitioners validates the need for further research. A study by Powers et al. (1984) found no difference in the study variables of knowledge, satisfaction, or compliance between patients treated by physicians and patients treated by nurse practitioners in the emergency department leading Powers et al. (1984) to conclude that nurse practitioners could be utilized to effectively treat primary care problems within the emergency department setting.

The measurement outcomes of patient satisfaction and compliance were validated by Brown and Grimes (1995). A meta-analysis of research on nurse practitioners and nurse midwives by Brown and Grimes (1995) found greater compliance and greater satisfaction in patients treated by nurse practitioners when compared to patients treated by physicians.

Hill et al. (1994) found significantly more patient satisfaction and higher levels of patient knowledge in

rheumatology patients treated by nurse practitioners than in patients treated by physicians.

Powers et al. (1984) demonstrated there was no difference in patient knowledge, satisfaction, or compliance in patients treated in the emergency department by physicians or nurse practitioners. South (1993) concluded that physicians were accepting of the nurse practitioner role in the emergency department while research by Rogers (1995) showed emergency department nurses were accepting of the role of the nurse practitioner in the emergency department. Middleton and Whitney (1993) described the positive effects of nurse practitioners and physicians working together in a collaborative manner.

These studies validated the use of the outcomes of patient satisfaction, patient knowledge, and problem resolution as effective measurements in the comparison of care given by physicians and nurse practitioners to patients presenting to the emergency department with primary health care needs. Finding only one study which compared emergency department patients treated by physicians or nurse practitioners, using the outcomes of patient satisfaction, patient knowledge and problem resolution, validates the need for further investigation of these variables in this setting.

# Chapter III

## The Method

This study sought understanding of the role of the nurse practitioner in the delivery of primary health care in the emergency department setting. Further, this study expanded research of the role of the nurse practitioner in the delivery of primary care in the emergency department setting. The purpose of the study was to determine if differences existed in patient satisfaction, patient knowledge, and patient problem resolution in emergency department patients treated by physicians or by nurse practitioners.

### Design of the Study

This study used a nonexperimental, descriptive research design which classifies the characteristics of phenomena and enumerates the frequency of occurrence of certain phenomena (Polit & Hungler, 1991). Data were collected after patients had been treated in the emergency department, thus no researcher intervention occurred (Polit & Hungler, 1991).

Variables. The variables of interest were patient satisfaction, patient knowledge, and problem resolution. A comparison of care provided by physicians and nurse

practitioners in the emergency department setting utilizing these three variables were examined.

Limitations. Cross-sectional data collection took place over entire shifts when both nurse practitioners and physicians were activity caring for patients and utilizing the same hospital staff. These hospitals were limited geographically to rural Mississippi. Limited access to emergency departments with concurrent physician and nurse practitioner coverage restricted the setting sites. Fulfillment of these criteria was germane to evaluating the variables of interest without bias. These emergency departments were small with an annual census of less than 35,000 visits per year. However, the researcher noted that the greatest percentage of hospital emergency departments have censuses less than 35,000. Also, access to Mississippi hospitals fulfilling the criteria of having physicians and nurse practitioners treating patients concurrently was limited to these rural small settings. The results of this study may not be generalizable to urban or larger hospital settings.

The other major limitation to the study related to the use of an instrument with no established, published validity. No other instrument was found which measured the variables of interest; therefore, the researcher did establish face validity for the purposes of this study.

Setting, Population, and Sample

The setting selected was two emergency departments in which both physicians and nurse practitioners were utilized to treat patients. Both hospital emergency departments were designated as Level II trauma centers. Both hospitals selected had under 300 beds.

The population was patients who presented to the selected emergency departments and were triaged as nonurgent. No randomization was made and all nonurgent patients were given the opportunity to participate in the study after their treatment was completed and the researcher determined they had a home telephone for the follow-up phase of the study. Also to be included in the study, the researcher determined the patients, or their significant others, could read, understand, and write English.

The sample was one of convenience taken from the population who agreed to participate in the study. Each patient was approached upon discharge from the emergency department and asked if they would like to participate in the research study. The number of subjects included in the study was 151 which consisted of 65 (43%) physicians and 85 (56%) nurse practitioners. The majority of subjects were black (63.3%) and male (60%). The majority of subjects had never been married (40%) and some high school was the highest educational level attained (56.6%). The

majority of subjects were employed full-time (36.6%) followed by unemployed (33.3%).

Instrumentation

This study utilized an adapted version of a tool developed by Powers et al. (1984) which was designed as a questionnaire to which emergency department patients could respond to queries about their satisfaction with treatment rendered to them in the emergency department and the number of instructions they could recall after the visit.

Permission to use the tool was granted verbally by telephone conversation with Dr. Powers; verbally by telephone communication with Dr. Jalowiec, and by E-mail correspondence with Dr. Reichelt (see Appendix A). The instrument designed by Powers et al. (1984) surveyed emergency department patients in a midwestern city (see Appendix B). The tool measured patient satisfaction with treatment given by health care providers with responses to the questions marked on a 5-point Likert scale from completely satisfied to completely dissatisfied. Thus, a range of 1 to 5 was possible with 3 indicating neither satisfaction nor dissatisfaction.

The tool also measured patient knowledge by noting the number of responses the patient could recall that the health care provider had instructed them to do about their health care problem which prompted the visit to the emergency department. Each patient's chart was then

examined, and the number of documented instructions was compared to the number of responses given by the patient at the time of the interview. A score was derived based on the ratio of responses recalled by the patient and those documented on the chart. The current researcher modified this scoring so that responses were graded by allowing 0 points for no recall of instructions and 1 point for each response given in practical terms. Unlike Powers et al.'s tool, no verification with a chart review occurred; therefore, no ratio scores were determined.

There was no discussion in the study by Powers et al. (1984) regarding tool validity. However, face validity was assumed within the confines of this study.

Additionally, the researcher developed the Aldridge Questionnaire (see Appendix C) to secure subject demographics including gender, race, marital status, educational level, and employment status. Section II, Patient Satisfaction and Knowledge, included two questions relating to the degree of satisfaction with care just received and the extent of knowledge recalled regarding discharge instruction.

The researcher also determined problem resolution in a third phase of the study by utilizing a telephone follow-up with each patient to determine if the patient had to seek additional, unscheduled, treatment after discharge from the emergency department (see Appendix D).

Problem resolution was measured by contacting each participant by telephone and asking if the problem which prompted the emergency department visit was resolved or if additional unscheduled treatment by a physician or nurse practitioner had been sought. This was a yes/no response. If an affirmative response was given, the patient was questioned as to why further care was sought. This information was used to determine if the additional treatment was sought because of failure of treatment rendered or because of some other reason such as drug allergy.

## Procedure

Permission to conduct this study was obtained from the Committee on Use of Human Subjects in Experimentation of Mississippi University for Women (see Appendix E). The two hospitals selected were contacted and permission granted for the conduction of this study in each respective emergency department. One hospital entered into a verbal contract with the researcher while the other required written permission to conduct the research study (see Appendix F). The nurse manager of each emergency department was contacted and scheduled times for data collection. An orientation was conducted for each of the department staffs prior to data collection. In this orientation, the focus of the research study was given to solicit support without revealing the instrument to the

staff to prevent introduction of bias. Data collection took place only when both physicians and nurse practitioners were on duty treating patients and utilizing the same emergency department staff.

The researcher approached patients after discharge from the department and asked if they would participate after determining they met study criteria. This assured no difference in treatment by health care worker which might interfere with this study since treatment was rendered prior to the interview. A permission to participate release was obtained (see Appendix G), and a series of questions were read to the participant. The patients were then followed up with a telephone call within 4 weeks after presentation to the emergency department and questions were read to them again. The additional question of "Have you had to make an unscheduled visit to a physician or nurse practitioner in the past 4 weeks about the problem which you went to the emergency department about?" followed by "If so, for what reason?" This was asked to determine if the unscheduled visit was for problem resolution or because of medication allergy or similar reason.

## Methods of Data Analysis

Descriptive statistics were utilized to analyze the data of the current research study. Examined were the frequencies of the variables of gender, race, marital

status, education, and employment status. A comparison approach utilizing chi-square tests was then used to examine the variables plotted against each other. In this way, patient satisfaction, number of unscheduled visits after discharge from the emergency department, and number of recalled instructions was examined by health care provider.

## Summary

Descriptive statistics were used to examine the care rendered to emergency department patients triaged as nonurgent and treated by physicians or nurse practitioners for the variables of patient satisfaction, patient knowledge, and problem resolution. Frequencies of demographic variables were examined along with chi-square analysis of the variables of interest.

# Chapter IV

# The Findings

This study sought understanding of the role of the nurse practitioner in the delivery of primary health care in the emergency department setting. Specifically, the purpose was to determine if differences exist in patient satisfaction, patient knowledge, and patient problem resolution in emergency department patients treated by physicians or by nurse practitioners. A nonexperimental, descriptive design was used to examine the variables. King's (1981) Theory of Goal Attainment formed the basis for this study.

## Description of the Sample

The sample (N = 151) consisted of patients who presented to the emergency department of two selected hospitals with problems triaged as nonurgent. Subjects were African American (63.3%) or Caucasian (36.4%). Marital status included single (44.4%), married (36.4%), widowed (10.6%), separated (5.3%), and divorced (3.3%). Most subjects (57%) had some high school education. Fifty-five subjects were employed full-time, 45 were unemployed, 26 were retired, and 15 were employed part-time. Ten subjects chose not to mark an employment status.

## Results of Data Analysis

Three research hypotheses guided the study. Data were collected using a tool devised by Powers et al. (1984). Data were subjected to chi-square analysis.

Research hypothesis 1. There is no difference in the outcome of satisfaction in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner. Eighty-two percent ($n$ = 125) of the sample were completely satisfied with the care rendered during their emergency department visit, 14% ($n$ = 22) were somewhat satisfied, and 2.6% ($n$ = 4) were neither satisfied nor dissatisfied. Since no significant difference emerged ($p > .05$), the researcher failed to reject Hypothesis 1, there is no difference in level of satisfaction by nonurgent emergency department patients when treated by either a physician or a nurse practitioner (see Table 1).

Table 1

Responses of Patient Satisfaction by Health Care Provider

| Patient response | $n$ | Physician | Nurse Practitioner |
|---|---|---|---|
| Completely satisfied | 125 | 52 | 73 |
| Somewhat satisfied | 22 | 10 | 12 |
| Neither satisfied nor dissatisfied | 4 | 3 | 1 |

Note. $\chi^2(2, N = 151) = 1.825$, $p = .402$.

Research hypothesis 2. The second hypothesis was there is no difference in the outcome of knowledge in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner. Patient knowledge was measured by the number of instructions the patient could recall upon discharge from the emergency department. Analysis of data revealed that the range of recalled instructions ran from 1 to 6. The majority of responses fell into the 3 or 4 instruction range (37.1% and 23.2%, respectively). Six instructions, the most recalled by any individual patient, represent 3 physician patients and 7 nurse practitioner patients. Since a significant difference was detected ($p < .01$), the researcher rejected Hypothesis 2. Knowledge recall for instructions provided after treatment was significantly higher for patients treated by nurse practitioners. These data are summarized in Table 2.

Table 2

Number of Recalled Instructions by Health Care Provider with Chi-Square Analysis

| No. of recalled instructions | n | Physician patients | Nurse practitioner patients |
|---|---|---|---|
| 1 | 11 | 10 | 1 |
| 2 | 23 | 15 | 8 |
| 3 | 56 | 23 | 33 |
| 4 | 35 | 9 | 26 |
| 5 | 15 | 5 | 10 |
| 6 | 10 | 3 | 7 |

Note. $\chi^2(5, N = 150) = 20.501$, $p = .001$.

Research hypothesis 3. The third hypothesis was there is no difference in the outcome of problem resolution in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner. Problem resolution was measured by the number of unscheduled visits patients had to make seeking additional health care for the problem which prompted their initial emergency department visit in a 4-week period following discharge from the emergency department. No patients treated by nurse practitioners made unscheduled visits seeking additional care. Of patients treated by physicians, 3 (2% of sample) made one additional visit, 3

made 2 additional visits, and one made 3 additional visits. The researcher determined a significant difference in patients making unscheduled visits ($p > .02$); therefore, Hypothesis 3 was rejected. These data are summarized in Table 3.

Table 3

Patients Making Unscheduled Visits Seeking Additional Health Care by Health Care Provider

| No. of visits | m | Physician patients | Nurse practitioner patients |
|---|---|---|---|
| 0 | 143 | 57 | 86 |
| 1 | 3 | 3 | 0 |
| 2 | 3 | 3 | 0 |
| 3 | 2 | 2 | 0 |

Note. $\chi^2(3, N = 151) = 11.177$, $p = .011$.

## Additional Findings

To further explicate the data, the researcher compared the number of recalled instructions to other demographic variables. When compared to educational status, the higher the educational level, the greater the number of recalled instructions.

When compared to employment status, the researcher determined that patients employed full-time recalled more instructions.

When compared to marital status, those patients who were married recalled the most instructions.

When examining the number of unscheduled visits, the researcher discovered that all unscheduled visits were made by patients who recalled only one instruction at the time of discharge from the emergency department.

Also examined was the number of recalled instructions and patient satisfaction. By far the most frequent response by patients, completely satisfied ($n$ = 124), was compared to the greatest frequency of recalled instructions. The researcher determined the patients who were the most satisfied recalled more instructions.

When referenced to gender, more females recalled instructions than males.

The size and demographics of the utilized setting and sample were noted to be in small rural communities. Application of findings may be different in urban areas or larger hospitals. A recommendation of replication of the study using a sample with greater variety of patient demographics was indicated.

# Chapter V

## The Outcomes

The purpose of this study was to ascertain if differences exist among the variables of patient satisfaction, patient knowledge, and patient problem resolution in emergency department patients treated by physicians or by nurse practitioners. King's (1981) Theory of Goal Attainment was utilized as the theoretical framework. Three hypotheses guided this study.

1. There is no difference in the outcome of satisfaction in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

2. There is no difference in the outcome of knowledge in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

3. There is no difference in the outcome of problem resolution in nonurgent patients presenting to the emergency department when treated by a physician or a nurse practitioner.

A research tool designed by Powers et al. (1994) was utilized to collect data. This tool measured patient

satisfaction on a 5-point Likert scale ranging from completely satisfied to completely dissatisfied. Patient knowledge was determined by the number of instructions the patients could recall after discharge from the emergency department. Problem resolution was elicited by telephoning patients within 4 weeks after their emergency department visit to determine if the patients had to make additional visits to seek further medical care for the problem which prompted their initial emergency department visit.

## Summary of the Findings

The sample (N = 151) included patients who presented to the emergency departments of two hospitals in Mississippi. The emergency departments were small with an annual census of less than 35,000 per year. Data were collected on multiple visits to each department and collected at times when both a physician and nurse practitioner were on duty and rendering care to patients. Data were analyzed using descriptive statistics of means, percentages, and frequencies.

The sample was mostly African American (63.6%), male (59.6%), and single (44.4%). Most of the sample had at least some high school education (57%), and most were employed full-time (36.4%).

The first hypothesis related to the outcome of satisfaction was accepted at the .05 level of significance. There is no difference in satisfaction for

nonurgent patients who present to the emergency department and are treated by physicians or nurse practitioners. The second hypothesis related to the outcome of knowledge was rejected. Patients instructed by nurse practitioners recalled significantly more instructions ($p = .001$) than patients instructed by physicians. The third hypothesis related to the outcome of problem resolution was rejected. The number of additional health visits made by patients for nonresolution of their health care problems was significantly higher among physician treated patients ($p = .011$).

## Discussion

Findings from the study supported Powers et al.'s (1984) findings that no significant difference in patient satisfaction exists for patients treated by physicians or nurse practitioners in the emergency department. Eighty percent of patients treated by physicians indicated they were completely satisfied with the care rendered them at time of discharge from the emergency department compared with 82% of patients treated by nurse practitioners. Of patients treated by physicians, 4.6% indicated they were neither satisfied nor dissatisfied as compared to 1% of patients treated by nurse practitioners. This result appears to demonstrate that the majority of patients treated in the emergency department setting are satisfied

with the care rendered them regardless of type of health care provider.

Hill et al. (1994) as well as Brown and Grimes (1995) both found no significant difference in patient satisfaction when comparing treatments rendered by physician or nurse practitioner. The current setting took place in the rural south where culture has dictated a high degree of politeness which may have also impacted the patients' expressed level of satisfaction. The patients may have not wanted to seem ungrateful for health care and thus marked a higher level of satisfaction out of courtesy. If viewed from the standpoint of King's (1981) Theory of Goal Attainment, subjects achieved a satisfaction goal related to securing health care regardless of type of provider.

The current researcher noted that of those patients who were neither satisfied nor dissatisfied ($n$ = 4), only one instruction at time of discharge was recalled. This result could indicate that patients who did not understand the instructions given or who received less than the amount of information they wanted about their health care problem were more ambivalent. This current researcher purports that the way discharge instructions are given to patients imparts their understanding of the plan for care. Perhaps inadequate instructions were presented by the health care provider without time for patients to ask

questions which may be of extreme importance to the way a patient remembers his or her care.

The significant difference in knowledge, recalled instructions at time of discharge from the emergency department, cannot be supported by other studies. In fact, Powers et al. (1984) concluded no difference in knowledge outcomes when comparing nurse practitioners and medical doctors. This result could be explained by the additional time spent by nurse practitioners with their patients or the emphasis nursing has placed on therapeutic responses. King's (1981) Goal Attainment Theory points out that clear communication between patient and health care provider must take place for goals to be met. Goal attainment must be met before the patient can be satisfied. Thus, King's theory that goal attainment and patient satisfaction are linked as subjects who indicated a higher degree of satisfaction at time of discharge from the emergency department recalled more instructions. Thus, patients who are satisfied have a greater understanding of discharge instructions when given by nurse practitioners. One powerful subrole of the nurse practitioner is that of health educator. This role is ingrained throughout the nurse practitioner's learning process and is considered unique to nursing--not medicine.

Another explanation may be that discharge instructions given by the nurse practitioners to patients

were on a level the patients or significant others could understand with time allowed for questions or discussion of any instruction not understood. Nurse practitioners probably asked the patients to repeat instructions to determine understanding.

Discharge instructions also appeared to impact problem resolution as those patients who had to seek additional health care through unscheduled visits recalled the fewest discharge instructions. Because the number of unscheduled visits ($n$ = 8) was so small, the results of analysis should be considered with caution. However, this researcher did note that all unscheduled visits to seek additional health care came from patients who were initially treated in the emergency department by physicians.

## Conclusions

This researcher concludes that there is no difference in patient satisfaction in emergency department patients when treated by either physicians or nurse practitioners. However, patient knowledge, when measured by recalled instructions at time of discharge from the emergency department, was significantly greater in patients treated by nurse practitioners than in patients treated by physicians. A third conclusion was that problem resolution, when measured by unscheduled patient visits seeking additional health care for the problem which

prompted the initial emergency department visit, was decreased in patients treated by physicians as compared to patients treated by nurse practitioners.

## Implications for Nursing

Practice. The emergency department has been designated as a primary care center by federal legislation. This has been reinforced by the Consolidated Omnibus Budget Reconciliation Act of 1986, which mandated treatment of all patients who present to the emergency department regardless of ability to pay for services rendered. Therefore, many patients now utilize the emergency department as the setting for their primary care needs. This study has demonstrated that nurse practitioners can function in the emergency department and render care to primary care patients with the same level of patient satisfaction as physicians and perhaps with greater achievement of patient knowledge and problem resolution. This researcher proposes the practice setting of the emergency department as valid for the nurse practitioner to render care to patients with primary care needs.

The findings of the current study support the placement of nurse practitioners in the emergency department to help alleviate the pressures felt by facilities as a result of increasing numbers of patients who utilize the local emergency department for primary

care concerns. Nurse practitioners have proven to be more cost effective in the treatment of such primary care problems and can be utilized to help decrease the amount of money spent for health care in this country (Covington et al., 1992; Middleton et al., 1993; Safriet, 1992) and help decrease patient dissatisfaction (Bindman, Grumbach, Deane, Rauch, & Luce, 1991). Nurse practitioners have also been more inclined to practice in rural areas which have had difficulty attracting physicians (Grumbach et al., 1993; Hayward et al., 1991). These nontraditional practice arenas for nurse practitioners allow for greater access to primary care for patients who are limited by financial or other boundaries (Appleby, 1995; Grumbach et al., 1993; Kearnes, 1994; Spisso et al., 1990).

Research. Only one study was found in the literature which examined patient outcomes of emergency department patients treated by physicians or nurse practitioners. The current study demonstrated that patient outcomes when measured by patient satisfaction, patient knowledge, and problem resolution were no different when care was rendered by physicians or nurse practitioners. Also noted were that some outcomes of patients treated by nurse practitioners were improved over those treated by physicians. The current study further validates the use of the tool devised by Powers et al. (1984) for determination of patient satisfaction in other research studies.

However, research is required to determine if similar outcome results can be demonstrated with a larger sample size and greater variability of patient demographics and settings. Other research studies could be undertaken to determine if patient outcomes are different in other practice settings. If research findings could be duplicated, it would help open new practice areas for nurse practitioners.

Theory. Research is the foundation for nursing practice and is guided by theory. Theory validates what nurses do as being the most efficacious and efficient. As health care reform moves toward greater fiscal restraint, it is imperative that all health care providers provide treatments which are proven to be the most effective and cost efficient. King's (1981) Goal Attainment theory was utilized as the theoretical framework for this study. According to King (1981), patients present to the emergency department with a need. Health care providers must communicate effectively with the patient to determine just what the patients need is and set goals which are congruent with the patient's need. A plan of care is carried out and evaluated for goal attainment. To reach goal attainment, the patient must have knowledge of the activities or behaviors required of them to achieve their goal. For satisfaction to occur, the patient must reach goal attainment. More research is needed to further test

the applicability of King's theory to the role of the nurse practitioner in the emergency department.

Education. The data generated by the current study determined that nurse practitioners could function in the emergency department setting with similar patient satisfaction as physicians. Also, nurse practitioners may achieve a higher level of patient knowledge and perhaps a greater level of problem resolution in primary care patients who present to the emergency department. This information can be utilized to develop curricula in graduate nursing programs specific for nurse practitioner students wishing to practice in the emergency department setting. More content in the acute care phase could be incorporated in existing curricula to utilize nurse practitioners in acute care areas such as emergency departments.

## Recommendations

The following recommendations were made based on the findings of the study:

1. Replication of the study with a larger sample size and more variability in patient demographics and settings.

2. Publication of the study to encourage utilization of nurse practitioners in the emergency department.

3. Implementation of graduate education curriculum with increased clinical emphasis in the emergency department.

4. Implementation of a longitudinal study which focuses on evolution of the nurse practitioner role in the emergency department.

5. Replication of the study using urban vs. rural emergency departments.

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# APPENDIX A

# PERMISSION TO USE TOOL

5i========== 28
Return-Path: <MAldri5130@AOL.COM>
Received: from UICVM (NJE origin SMTPSRV2@UICVM) by UICVM.CC.UIC.EDU (LMail V1.2a/1.8a) with BSMTP id 3017; Fri, 27 Oct 1995 13:26:46 -0500
Received: from emout04.mail.aol.com by UICVM.UIC.EDU (IBM VM SMTP V2R2) with TCP; Fri, 27 Oct 95 13:26:44 CDT
Received: by emout04.mail.aol.com (8.6.12/8.6.12) id OAA12040 for U42555@uicvm.cc.uic.edu; Fri, 27 Oct 1995 14:26:58 -0400
Date: Fri, 27 Oct 1995 14:26:58 -0400
From: MAldri5130@aol.com
Message-ID: <951027142656_91200807@emout04.mail.aol.com>
To: U42555@uicvm.cc.uic.edu
Subject: Re: Research Project

Dr. Reichelt:
I am sorry my E-mail was not specific. I am asking permission to use the tool developed for your research in patient outcomes in the ED. If possible, I would like to obtain a copy of the tool. The article published in Nurse Practitioner (Feb. 1984) did not contain a copy. I am also seeking permission from Dr. Powers and Anne Jalwoiec. I have included my address and phone number below. I will be happy to pay postage or other expenses you might incur. If there are other questions I will be happy to try to answer them. Once again thinking you in advance.
Mickey Aldridge RN CEN

Mickey Aldridge
1900 Valley View Road
Starkville, MS 39759
(601) 324-0349

ENCLOSED IS THE TOOL YOU ASKED FOR. YOU MAY USE IT FOR YOUR RESEARCH PROJECT.

Paul A. Reichelt

# APPENDIX B

## EMERGENCY ROOM DATA SHEET: SAMPLE ITEMS

Powers, M. J./Reichelt, P. A.

Privileged Communication

EMERGENCY ROOM DATA SHEET: SAMPLE ITEMS

Date and Time of Interview_____ AM PM ___/___/___
Mo. Day Yr.

Patient's Name_____
Address_____ Interviewer_____
Telephone Number_____

Parts 1 and 2 are for use before the patient is seen by the health professional.

| PART 1: SOCIOC-DEMOGRAPHIC DATA | | | | |
|---|---|---|---|---|
| Sex | ___male | ___female | | |
| Race | ___White<br>___Black | ___Amer. Indian<br>___Latino | ___Oriental<br>___Fillipino | ___other (specify)<br>_____ |
| Marital Status | ___never married<br>___married<br>___separated | ___divorced<br>___widowed | | |
| Living Arrangement (check all those that apply) | ___own home<br>___another's home<br>___paying<br>___not paying<br>___rented room or apt. | ___alone<br>___with spouse<br>___with other, who_____<br>___health related facility (specify type)<br>_____ | | |
| Education | ___baccalaureate or higher degree<br>___some undergraduate work<br>___trade, tech., or voc. school with h.s. diploma | ___high school diploma<br>___trade, tech., or voc. school no high school diploma<br>___9-11 grades completed<br>___fewer than 9 grades completed | | |
| Usual Occupation<br>_____ | specify | or check | ___housewife<br>___never employed<br>___full-time student | |
| Employment Status | ___employed full-time<br>___employed part-time | | ___retired<br>___unemployed | |

**SOCIO-DEMOGRAPHIC DATA (cont.)**

Family Income

___less than $3,000
___$3,000--$4,999
___$5,000--$6,999
___$7,000--$9,999
___$10,000--$14,999
___$15,000 +

Health Care Coverage

___none
___Medicare
___Medicaid
___Workmen's comp.

List other health insurance patient has, or specify none.

_____

_____

Usual Source of Health Care

___emergency room, specify_____
___clinic, specify_____
___private physician, specify_____
___none

Number of Times Treated in an ER During the Past Year _____

**PART 2: MOTIVATIONAL ASPECTS**

Compared to other people your age, would you say your health is:

___excellent
___good
___fair
___poor

Some people worry about their health a lot; others very little. How worried are you?

___very worried
___moderately worried
___a little worried
___not worried at all

Why did you come to the emergency room today?
Probe for the whole range of possible reasons, being sure to cover: symptoms; financial concerns; convenience (hours, location, appointment not necessary); inaccessibility of other facilities; lack of personal physician; favorable past experience with emergency room (urgent or non-urgent problem); etc.

_____

_____

Patient assigned to: Physician_____
Name

Nurse Practitioner_____
Name

Part 3 is used after the patient has received care.

| PART 3: PERCEPTION OF CARE | |
|---|---|
| How satisfied are you with the care you just received? | ___completely satisfied<br>___somewhat satisfied<br>___neither satisfied nor dissatisfied<br>___somewhat dissatisfied<br>___completely dissatisfied |
| Probe for the reasons which form the basis of this rating. | |

What did the nurse practitioner (or physician) tell you to do concerning the health problem(s) that brought you to the emergency room today?

List all the specific recommendations such as: appointments for further care (clinics, private physician, return to emergency room, etc.); prescriptions; laboratory tests; changes in behavior (diet, smoking, etc.).

Probe to determine if patient knows rationale for each recommendation.

_____

_____

_____

_____

# APPENDIX C

# ALDRIDGE QUESTIONNAIRE

# Aldridge Questionnaire

Name of Facility: _____
Patient Code Number: _____
(or significant other)
Address: _____
_____

Telephone Number: _____

## Section I. Demographic Data

Sex: ___ Male ___ Female
Race: ___ White ___ Black
Marital Status: ____ Never married ____ Divorced
____ Married ____ Widowed
____ Separated

Education (please mark highest grade completed):
____ Some high school ____ Some college
____ Baccalaureate degree ____ Some master's level

Employment Status:
____ Employed full-time ____ Employed part-time
____ Retired ____ Unemployed

## Section II. Patient Satisfaction and Knowledge

How satisfied are you with the care you just received?

____ Completely satisfied
____ Somewhat satisfied
____ Neither satisfied nor dissatisfied
____ Somewhat dissatisfied
____ Completely dissatisfied

What did your health care provider tell you to do concerning the health care problem(s) that brought you to the emergency room today?

Please list as many as you can remember (include appointments for further care (e.g., clinics, private physician, return to emergency room), diet instructions (NPO or nothing by mouth, clear liquids, fluids, etc.), prescriptions, laboratory tests, changes in behavior, etc.

# APPENDIX D

# TELEPHONE FOLLOW-UP

Telephone Follow-up

1. Have you had to make an unscheduled visit to a physician or nurse practitioner in the past 4 weeks about the problem which you went to the emergency department about?"

2. If so, for what reason?

# APPENDIX E

## APPROVAL OF MISSISSIPPI UNIVERSITY FOR WOMEN COMMITTEE ON USE OF HUMAN SUBJECTS IN EXPERIMENTATION

MISSISSIPPI UNIVERSITY FOR WOMEN
Columbus, MS 39701

Office of the Vice President for Academic Affairs
Eudora Welty Hall
P.O. Box W-1603
(601) 329-7142

March 20, 1996

Mr. Mickey D. Aldridge
c/o Graduate Program in Nursing
Campus

Dear Mr. Aldridge:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed research under the following conditions.

Your consent form must contain these statements: (1) no names will be used on the survey, and (2) participation will not affect the standard of care you receive at the emergency room now or in the future.

I wish you much success in your research.

Sincerely,

Susan Kupisch
Vice President
for Academic Affairs

SK:wr

cc: Mr. Jim Davidson
Dr. Mary Pat Curtis
Dr. Rent

# APPENDIX F

# AGENCY CONSENT FORM

Martha Lewis
Nursing Executive
Riley Hospital

Ms. Lewis:

I am a graduate student at Mississippi University for Women and am completing a thesis as partial requirement for graduation. My thesis research involves emergency department patients who have been treated by physicians or nurse practitioners. Research variables for the two groups are: patient satisfaction, patient knowledge and problem resolution. I would like to use Riley Hospital as one of my research sites.

Data collection for this research will be conducted by me after the patient has been discharged from the department. Neither the name of the patient or your facility will be reported in the research. After completion of my research, a copy can be made available for your use should you wish.

I hope you will favorably consider my request to use Riley Hospital as one of my research sites.

Professionally,

Mickey Aldridge

I agree to above data collection at Riley Memorial Emergency Department for research purposes.

4/29/96
Date

Martha Lewis asst Exec. Director
Riley Memorial Hospital

# APPENDIX G

# PARTICIPANT'S CONSENT

1900 Valley View Road
Starkville, MS 39759

Dear Participant:

My name is Mickey Aldridge. I am a registered nurse enrolled in the graduate nursing program at Mississippi University for Women in Columbus, MS. As part of the requirements for graduation, I am conducting a study comparing outcomes of patients treated in emergency rooms by nurse practitioners or physicians. It would be most helpful if you would agree to participate in my study by answering a few questions about your emergency room visit. I will also expect to give you a telephone call in about 4 weeks as a follow-up to ask if the problem with which you presented to the emergency department has been resolved. Your participation is completely anonymous, and only group results will be reported. Your participation will involve only about 15 minutes of your time. Your participation will not affect your treatment now or at any time in the future.

There are no identified risks for participation in this study, and you may withdraw from the study at any time.

Your participation will be greatly appreciated. Your signature below signifies your consent to participate in this study.

Sincerely,

Mickey Aldridge, RN

---

____ I agree to participate in this research study.

_____ _____

Signature of Participant Date